

## Plant Data Sheets

1.	Big bluestem	379
2.	Compass plant	381
3.	Culver's root	385
4.	Indian grass	387
5.	Little bluestem	389
6.	Mountain mint	391
7.	Prairie blazing star	393
8.	Prairie brome	395
9.	Prairie cord grass	397
10.	Prairie dock	399
11.	Prairie dropseed	401
12.	Rattlesnake master	403
13.	Rough blazing star	405
14.	Saw-toothed sunflower	407
15.	Stiff goldenrod	409
16.	Switch grass	411
17.	Tall coreopsis	413
18.	Wild bergamot	415

## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Andropogon



7. Species Andropogon gerardi Common Name Big bluestem grass  
(Turkey-foot grass)

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant 1 to 2 meters or more (3 feet to 8 feet)
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature July, August, September
  - D. Flower parts

Petals _____	Color _____
Sepals _____	Color _____
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color <u>yellow</u>
  - E. Nonflower parts

Leaves long and arched; the lower leaves are usually covered with  
silky hair

Stems upright, appear bluish, so named big bluestem

Seeds fruit always one-seeded; each plant produces many seeds; the  
seed head usually branches into three or four parts resembling a  
turkey's foot, and is also named "turkey-foot grass"

Roots fibrous, deep, 5 cm to 3 meters or more

## Pollination

12. Wind X  
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. the early settlers grazed livestock extensively on bluestem prairie
2. an important food for large and small native herbivores
3. Chippewas used root decoction for stomachaches, gas;  
Omahas used leaf tea as an external wash to relieve fevers, general debility
4. diuretic, analgesic

## Economic Uses

1. it is relished by livestock and usually eaten in preference to other grasses
2. through over use and abuse this native grass has been killed out or greatly  
reduced on most of its original area since 1885
3. ranchers and farmers should never graze shorter than 6 to 8 inches during  
the growing season or the grasses will decrease and be replaced by less  
desirable species of plants

## Adaptations

1. a deep-root system insures survival during prolonged dry spells
2. tall stems and thick leaves important wildlife resources
3. deep, fibrous roots to 9 meters (10 or more feet) deep provide excellent soil  
building properties
4. \_\_\_\_\_

Big bluestem grass *Andropogon gerardi*

57



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Silphium
7. Species Silphium laciniatum



Common Name Compass plant

## Primary Habitat

8. Prairie (full sun) X Ecotone                      Savanna
9. Native X Not Native

## Characteristics

10. Size of plant 1 to 3 meters or more (3 feet to 8 feet)
11. Flowers- capitate (head-like, very densely clustered)
  - A. Number per plant several flowers per stem: the outer ray flowers produce the seed
  - B. Size (in cm) like a small sunflower
  - C. Flowering time in nature July-September
  - D. Flower parts
    - Petals many Color yellow
    - Sepals many Color green
    - Pistil many Color
    - Stamens many Color
    - Pollen                      Color yellow
  - E. Nonflower parts
    - Leaves leaves alternate, deeply pinnately divided or lobed, large, wide, oak-like vertical leaves: extremely large leaves on the lower one-third of the plant: serrated
    - Stems tall flower stalk 3 to 10 feet tall: stems leafy
    - Seeds fruit is an achene (a one-seeded nutlet): the outer ray flowers produce the seed
    - Roots tuberous, deep, up to twenty feet deep

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. when in bloom a gummy material appears along the upper one-third of the main stem; this resinous material was used by Indians as a chewing gum
2. used as a direction indicator, or "compass" by early Americans
3. American Indians used root tea as a general tonic for debility; worm repellent; leaf tea emetic, once used for coughs, lung ailments, asthma
4. resin said to be diuretic
5. root tea used for coughs, asthma, gonorrhea
6. warning: of unknown toxicity

## Economic Uses

1. compass plant is palatable, nutritious and is eaten by all classes of livestock, particularly when the vegetation is young
2. consumed by prairie herbivores
3. it is an important indicator of range condition: it decreases on native rangeland that is overgrazed or improperly managed

## Adaptations

1. large leaves point north and south with the leaf surface facing the morning and afternoon sun

2. because of its "directional leaves." it has been given the name compass plant

3. a deep-root system, which may reach to twenty feet into the soil

4. leaves have many tiny, stiff hairs that feels sandpapery, which may provide protection from insects as well as protection from the hot sun and dry wind

5. the ray flowers (often called petals) produce the seed: the central disc flowers of the garden sunflower, *Helianthus annuus*, produce the seed and the ray flowers are infertile

6. usually, the presence of this plant is an indication of a moist, deep subsoil

Compass plant *Silphium laciniatum* 997



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Scrophulariaceae
6. Genus Veronicastrum
7. Species Veronicastrum virginicum



Common Name Culver's root

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages 1 meter or more
11. Flowers
  - A. Number per plant numerous, in spikes, white, showy
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature July
  - D. Flower parts

Petals _____	Color <u>white, united, at least at the base; small</u>
Sepals _____	Color _____
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color _____
  - E. Nonflower parts

Leaves <u>mostly in whorls of 3 to 7, lance-shaped, toothed</u>
Stems <u>erect</u>
Seeds <u>small</u>
Roots <u>tuberous</u>

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones X \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. American Indians used root tea as a strong laxative, to induce sweating, to induce vomiting; diuretic  
\_\_\_\_\_  
\_\_\_\_\_  
2. used similarly by physicians  
\_\_\_\_\_  
\_\_\_\_\_  
3. traditionally, dried root is used; fresh root is a powerful laxative  
\_\_\_\_\_  
\_\_\_\_\_  
4. potentially toxic  
\_\_\_\_\_  
\_\_\_\_\_

## Economic Uses

1. unknown  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Adaptations

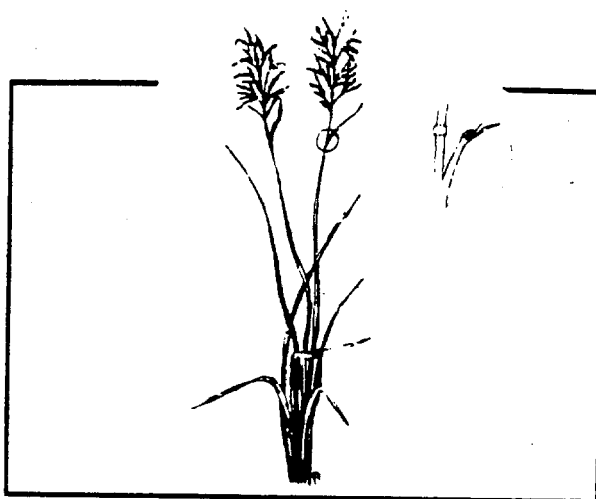
1. common on the few black-soil prairie remnants  
\_\_\_\_\_  
\_\_\_\_\_  
2. many insects are attracted to the flowering spikes  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Culver's root - white in center  
*Veronicastrum virginicum* 1209



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Sorghastrum



7. Species Sorghastrum nutans Common Name Indian grass

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages 1 to 2 meters or more
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature August, September
  - D. Flower parts

Petals _____	Color _____
Sepals _____	Color _____
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color <u>yellow</u>
  - E. Nonflower parts

Leaves <u>up to 1 cm wide, 50 cm or longer</u>
Stems <u>upright; it is readily distinguished from big bluestem (andropogon gerardi) by its slightly more erect habit of growth</u>
Seeds <u>fruit always one-seeded; each plant produces many seeds</u>
Roots <u>fibrous, deep</u>

## Pollination

12. Wind X  
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. food source and cover for many herbivores

## Economic Uses

1. very nutritious and readily eaten by all classes of livestock, either as green forage or dry prairie hay  
2. highly productive when not overgrazed  
3. high protein content compared to nonnative pasture grasses

## Adaptations

1. easily identified by the prominent, claw-like ligule where the leaf blade attaches to the sheath  
2. a deep-root system, 1 meter to 3 meters or more deep, can enable it to withstand a wide range of extremes  
3. an important grass of the tallgrass prairie, providing food and shelter for numerous animals  
4. deep, fibrous roots are important soil builders  
5. excellent fuel source for prairie fires

Indian grass *Sorghastrum nutans*

1117



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Andropogon
7. Species Andropogon scoparius



Common Name Little bluestem grass

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant 150 cm tall or more (2 to 5 ft. tall)
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature August, September
  - D. Flower parts

Petals _____	Color _____
Sepals _____	Color _____
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color <u>yellow</u>
  - E. Nonflower parts

Leaves <u>blue-green or green color leaf blades</u>
Stems <u>little bluestem can be identified by its flat, bluish-colored basal</u>
Seeds <u>little bluestem can be identified by its flat, bluish colored basal shoots and its leaf blade which tend to fold</u>
Roots <u>a dense, fibrous root system two to three meters in depth</u>

**Pollination**

12. Wind           X          

Animal                                 

Insect                                 

Bird                                 

Other                                 

**Growth Habits**

13. Grows singly   X   Grows in clones         
How many present in clone?           

1. an important, native, warm-season perennial mid grass that was widely distributed in America
2. a nutritious food source for many herbivores
3. little bluestem has been used for grazing livestock and for hay production since the first days of settlement

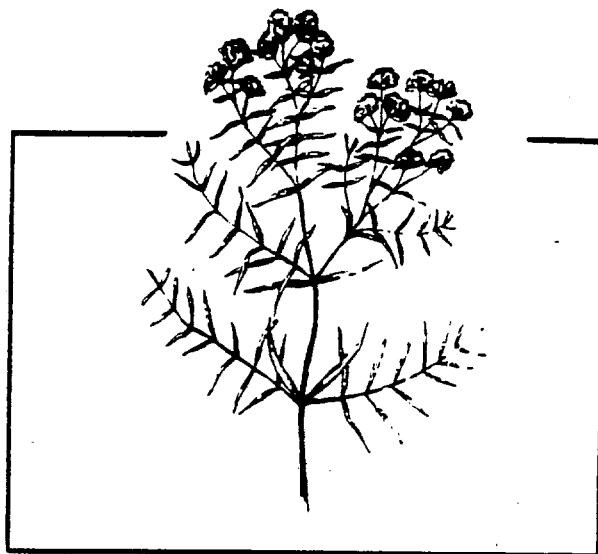
1. cattle have for many years been shipped to bluestem ranges to fatten for the market
2. little bluestem and other native grasses and forbs are being successfully seeded on thousands of acres of formerly cultivated land
3. native prairie grasses and forbs are efficient soil builders

1. fibrous root systems 2 to 3 meters deep or more enable survival during periods of drought
2. has adapted to herbivore grazing
3. when little bluestem is continually grazed closer than 4 to 6 inches (12.5 cm) during the growing season, it is finally killed out and replaced by less productive plants
4. important in the food chain and food web cycles
5. deep, fibrous roots are excellent soil builders

[illegible]

## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Labiatae
6. Genus Pycnanthemum



7. Species Pycnanthemum virginianum Common Name Mountain mint

## Primary Habitat

8. Prairie (full sun) X Ecotone                      Savanna X
9. Native X Not Native

## Characteristics

10. Size of plant 1/2 to 1 meter tall
11. Flowers
  - A. Number per plant flowers in small clusters in the axils of leaves or bracts
  - B. Size (in cm) very small, less than 1 cm
  - C. Flowering time in nature July to September
  - D. Flower parts

Petals	<u>                    </u>	Color	<u>white</u>
Sepals	<u>                    </u>	Color	<u>                    </u>
Pistil	<u>                    </u>	Color	<u>                    </u>
Stamens	<u>                    </u>	Color	<u>                    </u>
Pollen	<u>                    </u>	Color	<u>                    </u>
  - E. Nonflower parts

Leaves	<u>opposite leaves are narrow and lance-shaped, rounded at the base and pointed at the tip</u>
Stems	<u>is four-angled and covered with a whitish bloom</u>
Seeds	<u>tiny with a smooth to rough surface</u>
Roots	<u>                    </u>

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect \_\_\_\_\_ X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly \_\_\_\_\_ X \_\_\_\_\_ Grows in clones \_\_\_\_\_ X \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. Medicine-unspecified and as a poultice on dog and other animal bites  
\_\_\_\_\_  
\_\_\_\_\_  
2. to bait mink traps  
\_\_\_\_\_  
\_\_\_\_\_  
3. tea brewed for a general tonic and as a treatment for mild indigestion and for  
the chills and fever  
\_\_\_\_\_  
\_\_\_\_\_

## Economic Uses

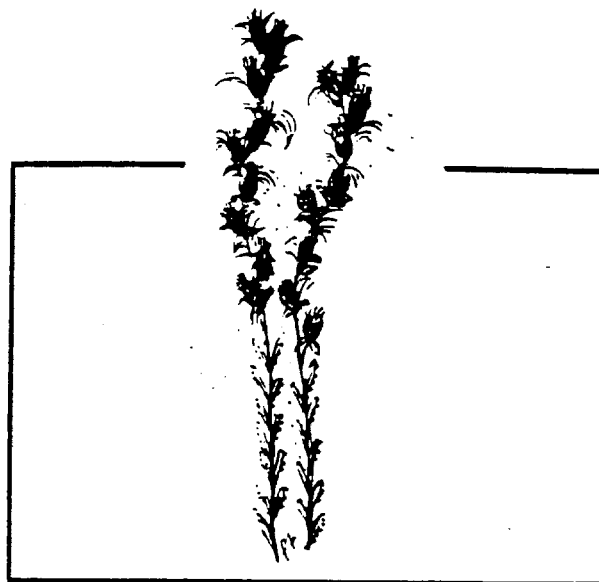
1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Adaptations

1. flowers have a lower lip with three rounded lobes and an upper lip that may  
have a slight notch  
\_\_\_\_\_  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Liatris
7. Species Liatris pycnostachya



Common Name Prairie blazing star

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna \_\_\_\_\_
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant to one meter or more (to five feet or more)
11. Flowers
  - A. Number per plant many; flower heads far more dense than Liatris aspera; produced on a spike, more than 15 flowers per head
  - B. Size (in cm) small, variable
  - C. Flowering time in nature July, early August
  - D. Flower parts

Petals _____	Color <u>pink</u>
Sepals _____	Color <u>green</u>
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color _____
  - E. Nonflower parts

Leaves <u>basal leaves well developed and present at flowering time</u>
Stems <u>erect</u>
Seeds <u>fruit is on achene (a one-seeded nutlet)</u>
Roots <u>extend deep into the soil</u>

### Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

### Early Uses

1. root tea was used as a folk remedy for kidney and bladder ailments, and also  
gargled for sore throats  
2. root used externally in poultice for snakebites  
3. thought to be diuretic, tonic

### Economic Uses

1. unknown  
2. \_\_\_\_\_  
3. \_\_\_\_\_

### Adaptations

1. adapted to drought  
2. attracts many pollinators  
3. this species is restricted to prairie remnants  
4. \_\_\_\_\_

Prairie blazing star *Liatris pycnostachya*

613



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Bromus



7. Species Bromus kalmii Common Name Prairie brome

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant up to 1 meter tall, but usually shorter
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature June, July
  - D. Flower parts

Petals	_____	Color	_____
Sepals	_____	Color	_____
Pistil	_____	Color	_____
Stamens	_____	Color	_____
Pollen	_____	Color	_____
  - E. Nonflower parts

Leaves	<u>narrow, to 12 cm or more</u>
Stems	<u>straight, with the top forming an arch where the flowers are located</u>
Seeds	<u>fruit always one-seeded</u>
Roots	<u>fibrous, to 0.5 m or more</u>

### Pollination

12. Wind   X    
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly   X   Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

### Early Uses

1.   unknown    
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_

### Economic Uses

1.   unknown    
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_

### Adaptations

1.   survives only in prairie remnants    
\_\_\_\_\_  
2.   this species has a limited natural range in our area and has been further  
restricted by the destruction of its habitats    
\_\_\_\_\_  
3.   identified when in bloom and when in seed by its characteristic arch at the top    
\_\_\_\_\_  
4. \_\_\_\_\_  
\_\_\_\_\_

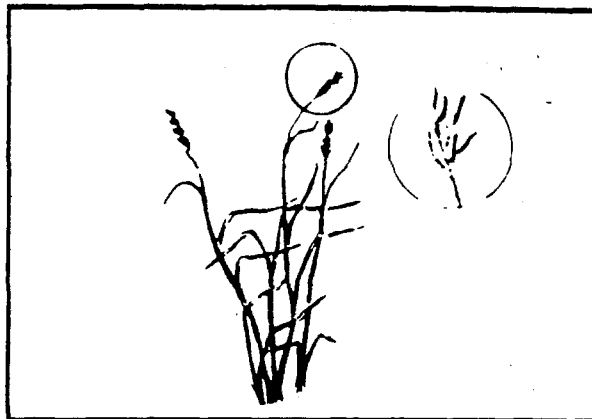
Prairie brome *Bromus kalmii*

269



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Spartina
7. Species Spartina pectinata



Common Name Prairie cord grass

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna \_\_\_\_\_
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages from 1 to 2 meters or more (3 to 8 feet tall)
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature July - August
  - D. Flower parts

Petals _____	Color _____
Sepals _____	Color _____
Pistil _____	Color _____
Stamens _____	Color _____
Pollen _____	Color _____
  - E. Nonflower parts

Leaves <u>long leaves, edges are serrated; if one moves his hand downward along the edge of the leaf blade, a cut may result</u>
Stems <u>sturdy</u>
Seeds <u>fruit always one-seeded; each plant produces many seeds</u>
Roots <u>rhizomatous underground stems, dense, deep-root systems</u>

### Pollination

12. Wind X  
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly X Grows in clones X  
How many present in clone? few to many

### Early Uses

1. possibly used for grass lodges by native Americans  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_

### Economic Uses

1. unknown  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_

### Adaptations

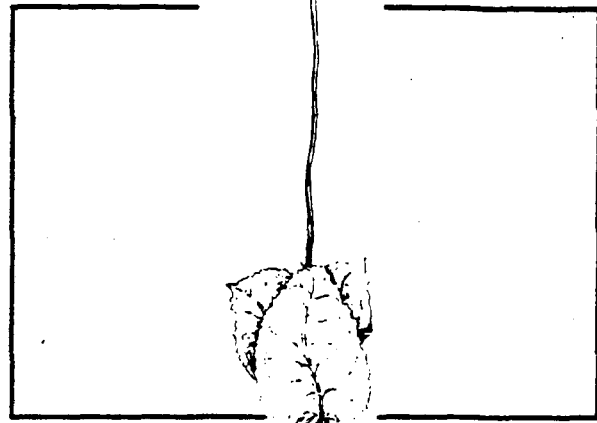
1. medium moist to moist conditions  
\_\_\_\_\_  
2. numerous underground stems and roots hold soil  
\_\_\_\_\_  
3. dense roots are soil builders  
\_\_\_\_\_  
4. deep roots enable survival during drought  
\_\_\_\_\_  
5. an important part of the tall grass prairie  
\_\_\_\_\_  
6. withstands fire, provides excellent fuel  
\_\_\_\_\_

Prairie cord grass *Spartina pectinata* 1133



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Silphium



7. Species Silphium terebinthinaceum Common Name Prairie dock

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna \_\_\_\_\_
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages 1 to 2 meters or more (3 feet to 8 feet tall)
11. Flowers
  - A. Number per plant several flowers per stem; the outer ray flowers produce the seed
  - B. Size (in cm) like a small sunflower
  - C. Flowering time in nature July to September
  - D. Flower parts
    - Petals many Color yellow
    - Sepals many Color green
    - Pistil many Color \_\_\_\_\_
    - Stamens many Color \_\_\_\_\_
    - Pollen \_\_\_\_\_ Color \_\_\_\_\_
  - E. Nonflower parts
    - Leaves leaves all essentially basal, very large serrated, heart-shaped
    - Stems leafy, smooth
    - Seeds fruit is an achene (a one-sided nutlet)
    - Roots a large, deep taproot

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. American Indians used root tea as a general tonic for debility; worm repellent;  
leaf tea emetic, once used for coughs, lung ailments, asthma
2. resin said to be diuretic
3. root tea used for coughs, asthma, gonorrhea
4. warning: of unknown toxicity

## Economic Uses

1. unknown
2. \_\_\_\_\_
3. \_\_\_\_\_

## Adaptations

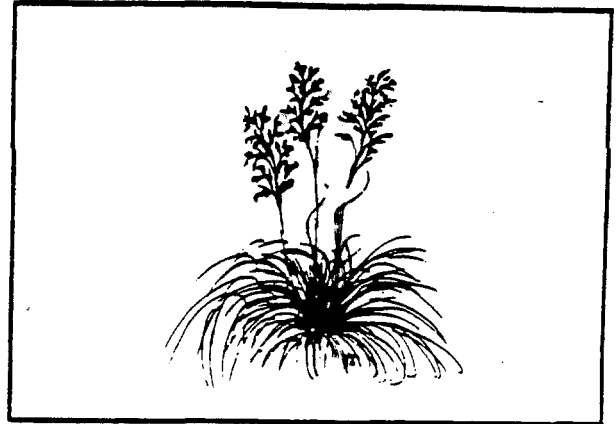
1. large leaves with short, stiff, sandpaper-like hairs provide some protection  
from herbivores, the hot summer sun, and the warm, dry winds
2. the species name "terebinthaceum" refers to the terpentine-like fluids  
within the plant (especially when crushed)
3. a deep taproot enables this plant to survive dry conditions adequately
4. a close relative of the compass plant, this species produces resin similar to the  
compass plant

Prairie dock *Silphium terebinthinaceum* 1025



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Sporobolus
7. Species Sporobolus heterolepis



Common Name Prairie dropseed

### Primary Habitat

8. Prairie (full sun) X Ecotone                      Savanna
9. Native X Not Native

### Characteristics

10. Size of plant 0.5 m to 1 m high
11. Flowers
  - A. Number per plant
  - B. Size (in cm)
  - C. Flowering time in nature August
  - D. Flower parts

Petals	<u>                    </u>	Color	<u>                    </u>
Sepals	<u>                    </u>	Color	<u>                    </u>
Pistil	<u>                    </u>	Color	<u>                    </u>
Stamens	<u>                    </u>	Color	<u>                    </u>
Pollen	<u>                    </u>	Color	<u>                    </u>
  - E. Nonflower parts

Leaves	<u>thin, long, mainly basal</u>
Stems	<u>                    </u>
Seeds	<u>the fruit is always one-seeded</u>
Roots	<u>fibrous, thick, deep</u>

## Pollination

12. Wind   X    
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly   X   Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. unknown  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_

## Economic Uses

1. unknown  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_

## Adaptations

1. roots reach 1 meter or more and provide excellent soil-building properties  
\_\_\_\_\_  
2. this is a characteristic grass of mesic prairie; it is an indicator of prairie remnant  
\_\_\_\_\_  
3. forms a thick clump  
\_\_\_\_\_  
4. bobolinks: the songbirds typical of northern prairies. select a prairie dropseed clump for nesting  
\_\_\_\_\_  
5. provides shelter and food for many forms of animal life  
\_\_\_\_\_  
6. when in bloom, the aroma smells similar to popcorn (some say it smells like burnt popcorn)  
\_\_\_\_\_

Prairie dropseed *Sporobolus heterolepis*

1141



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Umbelliferae
6. Genus Eryngium



7. Species Eryngium yuccifolium Common Name Rattlesnake master

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna \_\_\_\_\_
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages 1 meter or more (36 inches tall)
11. Flowers
  - A. Number per plant Eryngium has dense, capitate (head-like: very densely clustered) clusters of flowers
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature July
  - D. Flower parts
    - Petals 5 Color white to whitish green: tiny, covered by bristly bracts
    - Sepals 5 Color \_\_\_\_\_
    - Pistil 1 Color \_\_\_\_\_
    - Stamens 5 Color \_\_\_\_\_
    - Pollen \_\_\_\_\_ Color \_\_\_\_\_
  - E. Nonflower parts
    - Leaves long, thick, yucca-like leaves have teeth or spines along the margin; parallel-veined
    - Stems straight, green
    - Seeds brown or black
    - Roots deep-rooted

### Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect   X   \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly   X   Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

### Early Uses

1. the Eryngium group has been referred to as having medicinal value since the time of Hippocrates (477-360 B.C.)
2. extracts from the roots as well as raw roots were recommended by English doctors in the 16th Century for liver trouble and other ailments
3. used as food by native herbivores
4. according to legend, the American Indians used the root as a medicine to cure rattlesnake bites, toothaches, bladder trouble, for coughs, neuralgia; also an emetic; a diuretic
5. chewing the root increases saliva flow

### Economic Uses

1. new growth is nutritious and readily eaten by all classes of livestock
2. \_\_\_\_\_

### Adaptations

1. seed heads have a honey-like odor
2. the flower head resembles a thistle, the leaves resemble yucca, and belongs to the carrot family
3. a deep-root system enables survival during drought
4. prairie invertebrates play a role in the ecology of this plant
5. the rattlesnake master is a reliable indicator of prairie remnants or a disturbed area that was once prairie

Rattlesnake master *Eryngium yuccifolium*

457



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Liatris
7. Species Liatris aspera



Common Name Rough blazing star.  
Button blazing star

## Primary Habitat

8. Prairie (full sun) X Ecotone                      Savanna X
9. Native X Not Native

## Characteristics

10. Size of plant to one meter or more (to three feet or more)
11. Flowers
  - A. Number per plant many; flower heads separated, not dense
  - B. Size (in cm) small, variable, more than 15 flowers per head (cluster):  
many clusters of flowers along a spike
  - C. Flowering time in nature August and September
  - D. Flower parts

Petals	<u>                    </u>	Color	<u>pink</u>
Sepals	<u>                    </u>	Color	<u>green</u>
Pistil	<u>                    </u>	Color	<u>                    </u>
Stamens	<u>                    </u>	Color	<u>                    </u>
Pollen	<u>                    </u>	Color	<u>                    </u>
  - E. Nonflower parts

Leaves	<u>basal leaves well -developed and present at flowering time</u>
Stems	<u>erect 900 mm or more</u>
Seeds	<u>Fruit is on achene (a one-seeded nutlet)</u>
Roots	<u>extend deep into the soil</u>

### Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

### Early Uses

1. root tea was used as a folk remedy for kidney and bladder ailments, and also  
gargled for sore throats  
\_\_\_\_\_  
\_\_\_\_\_  
2. root used externally in poultice for snakebites  
\_\_\_\_\_  
\_\_\_\_\_  
3. thought to be diuretic, tonic  
\_\_\_\_\_  
\_\_\_\_\_

### Economic Uses

1. unknown  
\_\_\_\_\_  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Adaptations

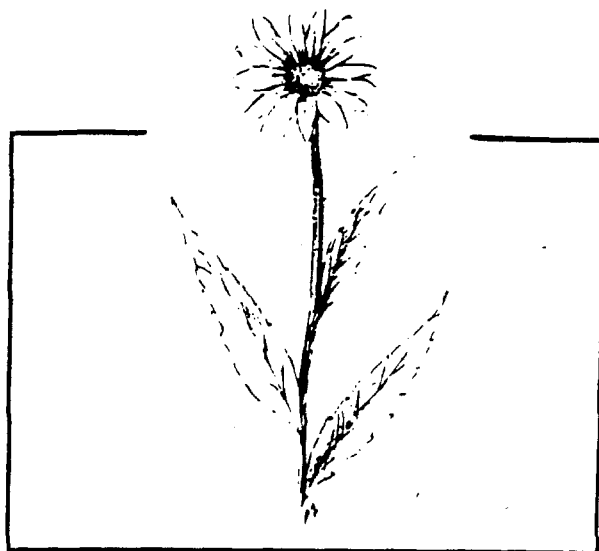
1. adapted to drought  
\_\_\_\_\_  
\_\_\_\_\_  
2. attracts many pollinators, including migrating Monarch butterflies  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Rough blazing star *Liatris aspera* 589



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Helianthus



7. Species Helianthus grosseserratus Common Name Saw-toothed sunflower

## Primary Habitat

8. Prairie (full sun) X Ecotone                      Savanna X
9. Native X Not Native

## Characteristics

10. Size of plant 1-2 meters or more (2 feet to 10 feet)
11. Flowers
  - A. Number per plant several to many
  - B. Size (in cm.) a small sunflower; variable
  - C. Flowering time in nature August - September
  - D. Flower parts
    - Petals                      Color yellow
    - Sepals                      Color green
    - Pistil                      Color
    - Stamens                      Color
    - Pollen                      Color yellow
  - E. Nonflower parts
    - Leaves firm, alternate, the lower surfaces pale and densely pubescent (hairy); numerous, narrowly lanceolate to oval, more than 5mm broad
    - Stems usually glabrous (without hair), often glaucous (covered by a white or pale, often waxy bloom)
    - Seeds fruit is an achene (a one-seeded nutlet)
    - Roots

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones X \_\_\_\_\_  
How many present in clone? several to many \_\_\_\_\_

## Early Uses

1. unknown, but another species, Helianthus annuus, was used by American Indians to make flower tea for lung ailments, malaria  
\_\_\_\_\_  
\_\_\_\_\_  
2. leaf tea taken for high fevers; astringent; poultice on snakebites and spider bites  
\_\_\_\_\_  
\_\_\_\_\_  
3. seeds and leaves said to be diuretic, expectorant  
\_\_\_\_\_  
\_\_\_\_\_

## Economic Uses

1. unknown  
\_\_\_\_\_  
\_\_\_\_\_

## Adaptations

1. long yellow petals attract insects  
\_\_\_\_\_  
\_\_\_\_\_  
2. ripe sunflower seeds, smaller than the garden sunflower, produces ample food for wildlife  
\_\_\_\_\_  
\_\_\_\_\_  
3. provide nesting sites for goldfinch  
\_\_\_\_\_  
\_\_\_\_\_  
4. seeds that are transported to newly-disturbed areas repopulate quickly  
\_\_\_\_\_  
\_\_\_\_\_  
5. a pioneer prairie plant that thrives in newly-disturbed areas  
\_\_\_\_\_  
\_\_\_\_\_

Saw-toothed sunflower  
*Helianthus grosseserratus*

549



## Plants

1. Kingdom Plantae

2. Phylum Tracheophyta

3. Class Angiospermae

4. Order Campanulales

5. Family Compositae

6. Genus Solidago

7. Species Solidago rigida



Common Name Stiff goldenrod

## Primary Habitat

8. Prairie (full sun) X Ecotone            Savanna           

9. Native X Not Native           

## Characteristics

10. Size of plant averages 1 meter or more (2-4 feet tall)

11. Flowers

A. Number per plant the flower heads are rounded or flat, numerous

B. Size (in cm) tiny flowers form the flower head

C. Flowering time in nature August to October

D. Flower parts

Petals            Color yellow

Sepals            Color green

Pistil            Color yellow

Stamens            Color yellow

Pollen            Color yellow

E. Nonflower parts

Leaves long-stemmed basal leaves: leaves are stiff, thick, fine-toothed, rough, numerous, alternate, moderately wide and covered with inconspicuous minute hairs which feel "velvety"

Stems upright, densely covered with velvety hairs

Seeds small seeds similar to dandelion: spreads with the wind

Roots two meters deep or more: thick, woody roots

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones X \_\_\_\_\_  
How many present in clone? several \_\_\_\_\_

## Early Uses

1. unknown: another species, Solidago canadensis, the Canada goldenrod, was  
used by American Indians who used the root for burns; flower tea for fever  
snakebites; crushed flowers chewed for sore throats  
\_\_\_\_\_  
\_\_\_\_\_  
2. contains quercetin, a compound reportedly useful in treating hemorrhagic  
nephritis  
\_\_\_\_\_  
\_\_\_\_\_  
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Economic Uses

1. it is eaten by livestock only in the early stages of growth  
\_\_\_\_\_  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Adaptations

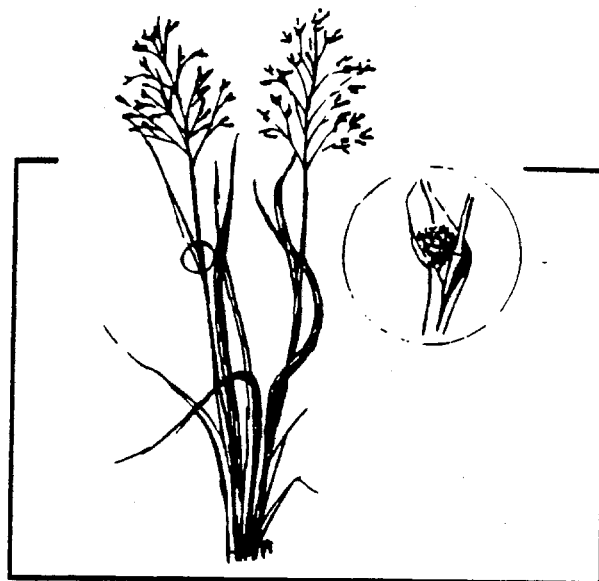
1. root systems go down two meters or more: can withstand drought  
\_\_\_\_\_  
\_\_\_\_\_  
2. the bright gold flowers attract many pollinator insects  
\_\_\_\_\_  
\_\_\_\_\_  
3. the flattish-topped heads and the velvety hair covering the leaves and stems  
offer some protection to invertebrates and moisture loss: this is also a useful  
identification feature  
\_\_\_\_\_  
\_\_\_\_\_  
4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Stiff goldenrod *Solidago rigida* 1097



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Gramineae
6. Genus Panicum



7. Species Panicum virgatum Common Name Switch grass

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant 150 cm or more (3 to 6 feet or taller)
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) \_\_\_\_\_
  - C. Flowering time in nature July, August
  - D. Flower parts

Petals	_____	Color	_____
Sepals	_____	Color	_____
Pistil	_____	Color	_____
Stamens	_____	Color	_____
Pollen	_____	Color	_____
  - E. Nonflower parts

Leaves	<u>the green to bluish-green leaves are usually from one-fourth to one-half inch wide and 6 to 18 inches long (15 cm to 45 cm long)</u>		
Stems	<u>tall stems to 150 cm or more</u>		
Seeds	<u>a larger, one-seeded fruit</u>		
Roots	<u>vigorous, deep, fibrous roots</u>		

### Pollination

12. Wind X  
Animal \_\_\_\_\_  
Insect \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly X Grows in clones \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

### Early Uses

1. a very nutritious source of food for native herbivores  
2. used as livestock forage and hay by early settlers

### Economic Uses

1. is readily eaten by all classes of livestock, either as green forage or prairie hay  
2. when continually grazed closer than 5 to 7 inches during the growing season,  
it decreases and is replaced by less productive plants  
3. \_\_\_\_\_

### Adaptations

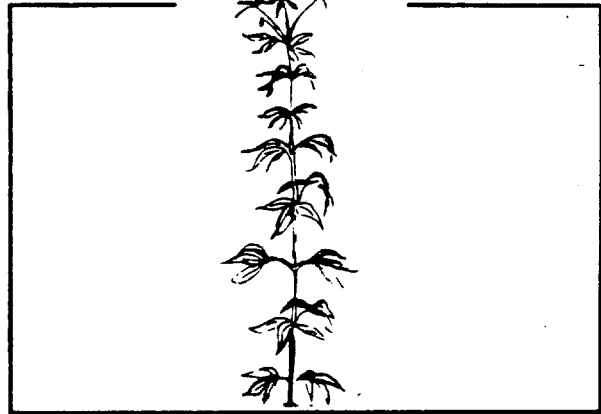
1. drought-resistant  
2. winter hardy  
3. grown under a wide range of soil and climatic conditions  
4. deep, thick, fibrous roots are excellent soil builders  
5. \_\_\_\_\_

Switch grass *Panicum Virgatum* 749



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Compositae
6. Genus Coreopsis
7. Species Coreopsis tripteris



Common Name Tall coreopsis

## Primary Habitat

8. Prairie (full sun) X Ecotone \_\_\_\_\_ Savanna X
9. Native X Not Native \_\_\_\_\_

## Characteristics

10. Size of plant averages one meter or more
11. Flowers
  - A. Number per plant several to many
  - B. Size (in cm) variable
  - C. Flowering time in nature August to October
  - D. Flower parts
    - Petals \_\_\_\_\_ Color yellow
    - Sepals \_\_\_\_\_ Color \_\_\_\_\_
    - Pistil \_\_\_\_\_ Color \_\_\_\_\_
    - Stamens \_\_\_\_\_ Color \_\_\_\_\_
    - Pollen \_\_\_\_\_ Color \_\_\_\_\_
  - E. Nonflower parts
    - Leaves leaflets lanceolate to elliptic or elliptic-oblong, usually more than 5 mm wide, divided to the midrib into three to several leaflets
    - Stems tall stems, to 1 meter high
    - Seeds fruit is an achene (a one-sided nutlet)
    - Roots \_\_\_\_\_

### Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect X \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

### Growth Habits

13. Grows singly X \_\_\_\_\_ Grows in clones X \_\_\_\_\_  
How many present in clone? several to many \_\_\_\_\_

### Early Uses

1. coreopsis tinctoria, the garden coreopsis, was used by the American Indians  
in making root tea for diarrhea, and as an emetic \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

### Economic Uses

1. unknown \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

### Adaptations

1. yellow petals guide insects to the nectar \_\_\_\_\_  
2. produces numerous seeds forwarded by wildlife, one of the favorite foods of  
goldfinches \_\_\_\_\_  
3. spreads by seeds as well as underground stems called rhizomes \_\_\_\_\_  
4. \_\_\_\_\_

Tall coreopsis *Coreopsis tripteris*

345



## Plants

1. Kingdom Plantae
2. Phylum Tracheophyta
3. Class Angiospermae
4. Order Campanulales
5. Family Labiatae
6. Genus Monarda



7. Species Monarda fistulosa Common Name Wild bergamot

### Primary Habitat

8. Prairie (full sun) X Ecotone X Savanna X
9. Native X Not Native \_\_\_\_\_

### Characteristics

10. Size of plant up to 1 meter (about 3 feet)
11. Flowers
  - A. Number per plant \_\_\_\_\_
  - B. Size (in cm) 4
  - C. Flowering time in nature June, July
  - D. Flower parts

Petals	_____	Color	<u>pink to lavender tubes</u>
Sepals	_____	Color	_____
Pistil	_____	Color	_____
Stamens	_____	Color	_____
Pollen	_____	Color	_____
  - E. Nonflower parts

Leaves	<u>opposite</u>
Stems	<u>square</u>
Seeds	_____
Roots	<u>a clump of fibrous rootlets and rhizomes</u>

## Pollination

12. Wind \_\_\_\_\_  
Animal \_\_\_\_\_  
Insect   X   \_\_\_\_\_  
Bird \_\_\_\_\_  
Other \_\_\_\_\_

## Growth Habits

13. Grows singly   X   \_\_\_\_\_ Grows in clones   X   \_\_\_\_\_  
How many present in clone? \_\_\_\_\_

## Early Uses

1. oil used to treat pimples and similar skin eruptions \_\_\_\_\_  
2. treat fevers, sore throats, colds and headache \_\_\_\_\_  
3. tea used to treat stomach disorders \_\_\_\_\_

## Economic Uses

1. herbs and flavorings \_\_\_\_\_  
2. aromatic oil \_\_\_\_\_  
3. \_\_\_\_\_

## Adaptations

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

Wild bergamot *Monarda fistulosa* 709



## Soil Invertebrates

Key to Common Phyla  
of  
Terrestrial Macro-Invertebrates

- 1 Segmented body with paired, segmented appendages; bilateral symmetry; chitinous exoskeleton..... **Arthropoda**
- 1' Body may or may not be segmented; symmetry is bilateral (may appear to be radial); appendages not be present; hardened plates or sclerites not present...2
- 2(1') Segmented body without appendages; setae present.....**Annelida**
- 2 Body not segmented; body wall smooth, with no setae.....3
- 3(2') Wormlike; small to minute (less than 1 mm in length).....**Nematoda**
- 3' Ventral foot present; body may be protected by a shell.....**Mollusca**

Key to Common Classes of Terrestrial Arthropods

- 1 Appendages not apparent; sclerites may be minute or internal ..... **Insecta**
- 1' Walking legs present.....2
- 2(1') Flight wings present (may be covered by a pair of thick, outer wings).....**Insecta**
- 2' Wings absent.....3
- 3(2') Four pairs of walking legs; first pair of appendages modified into chelicerae; body has two distinct divisions.....**Arachnida**
- 3' Not as above.....4
- 4(3') Three pairs of walking legs; one pair of antennae; body has three distinct regions.....**Insecta**
- 4' Not as above.....5
- 5(4') Body is dorsoventrally flattened; two pairs of antennae (first pair are vestigial); seven pairs of walking legs.....**Malacostraca**
- 5' Not as above.....6
- 6(5') Wormlike, cylindrical or slightly flattened body with many pairs of legs.....7
- 6' Body is elongate and dorsoventrally flattened; 15 or more pairs of legs; each body segment bears a single pair of legs; antennae consist of 14 or more segments; last two pairs of legs are directed backwards.....**Chilopoda**

- 7(6) Most body segments bear two pairs of legs; antennae short.....**Diplopoda**
- 7' Body segments bear a single pair of legs; small to minute (1-8 mm) in length; antennae variable.....**8**
- 8(7') Antennae bear three apical branches; overall length is 1.0-1.5 mm; 10-12 pairs of legs.....**Symphyla**
- 8' Antennae unbranched; overall length is 1-8 mm; nine pairs of legs...**Pauropoda**